

## REMARKS

The Applicants respectfully traverse and request reconsideration.

Applicants wish to thank the Examiner for the notice that Claim 3 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112 second paragraph and if it were to include all of the limitations of the base claim and any intervening claims.

OK The drawings stand objected to as failing to include the letters "VH" mentioned on page 9 of the specification. Applicants submit herewith a proposed drawing correction which would amend Figure 2B to include the letters "VH" as shown. Applicants respectfully request approval of this change.

OK The specification has been objected to as containing several informalities. The Applicants have amended the specification to correct typographical errors. Applicants also note that it appears that the specification is objected to due to hyphenated wording. Applicants suggest that perhaps a substitute specification may be a more efficient way to address this objection if it is maintained. If the objection is maintained, Applicants respectfully request an indication as to whether the Examiner would prefer a substitute specification to remove all hyphens throughout the document due to a right justification scheme used in the filed papers.

Claims 4-6 and 10-16 stand objected to as being in improper form due to multiple dependent claim dependencies. These claims have also been amended to correct informalities.

The specification is also objected to as allegedly being unclear as to what the significance of the letters a, b and c is. As to the significance of letters a, b and c and the question as to how these sheets are processed. In order to answer this question, the paper handling system of figure 1 has to be examined in its entirety. As described above, the sheets are obtained by a continuous web which is 2-up-printed. Thus, the sheets are supplied in pairs of sheets being arranged adjacent each other relative to the paper transport direction P as it is shown in figure 1. Later on, in section B, the pairs of sheets are merged, i.e. transferred in a pair-wise manner into a shingled arrangement. These pair-wise shingled sheets are to be processed. As it is described on page 1, third paragraph, this processing may consist of putting sheets in envelopes. Of course, maybe more than one sheet is sought to be

put in the same envelope. The sheets to be put in one envelope are called a group. Thus, this is the significance of the letters a, b and c. The reason for differentiating between the belonging of the sheets to different groups in the specification is that this differentiation is able to illustrate an advantage of the whole system shown in figure 1. If you would just take sections A, B and D, leaving out section C, neither a continuous nor a clocked processing of the pair-wise shingled sheet would be possible since the sheets belonging to one group may be distributed over more than one pair of sheets. Thus, the provision of section C enables a clocked processing of the sheets by forming a continuous shingled stream of sheets. This advantage is described on page 16, second paragraph, and page 21, last paragraph, to page 22, second paragraph. In order to efficiently use section C, as described above, the present invention is advantageous because the present invention enables transferring the pre-shingled sheets of section B into section C1 while maintaining the shingled arrangement of the sheets.

Claims 1 and 7 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Office Action indicates that the shingling process takes place within the first transport section of the sheet handling machine as described in the specification but that it is allegedly unclear what the Applicants' invention is from reading the claims. The Applicants are unsure as to which language within the claims is unclear. However, Applicants will attempt to address the Examiner's rejections as best understood. The invention relates to a transfer of two sheets which are already arranged in a shingle mode of arrangement, through a paper handling machine in which the sheets are supplied at a lower speed, without these pre-shingled sheets sliding over one another, i.e., so that the shingled arrangement of the sheets is maintained. In the invention claimed, the sheets are transferred in a shingled manner to a sheet handling machine. The Office Action states that the shingling takes process within the "first transport section" of a sheet handling machine. However, as stated in the specification, for example, page 6 and elsewhere, the shingling in one embodiment takes place in the second transport section, mainly Section B. In any event, the claims describe a shingling device wherein the sheets are already arranged in a shingled mode of arrangement. With respect to claim 7, this claim notes that the device includes a first transport unit, such as unit 304 or other suitable unit. As such, these claims are believed to comply with 35 U.S.C. § 112 second paragraph. If the Examiner wishes to maintain the rejection, Applicants respectfully request an indication as to which words in these claims are the subject of confusion.

OK

OK Claim 2 stands rejected under 35 U.S.C. § 112 second paragraph due to the limitation "the leading edge," Applicants have amended the claims to correct the typographical errors.

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,957,050 (Scheffer, et al). An embodiment for section C is shown in figure 3 and 5, taken in combination. Section C is divided into two sections C1 and C2 wherein both sections are a part of a so-called paper-handling machine as it is described on page 7, second paragraph.

In section A, sheets are obtained from a continuous web, cut and supplied to section B in a two-up arrangement. In section B the sheets are merged, i.e. the sheets supplied from section A are transferred in a shingle mode of arrangement. This is described on page 6, last paragraph. Thus, the shingling takes place in section B as it is stated on page 6, last paragraph, and as can be seen from figure 1.

The shingled sheets are then transferred from merger section B to section C (page 6, last two lines). Here, the present invention permits a very simple transfer of these shingled sheets to section C (page 7, fifth paragraph). This is because the shingled sheets do not have to be transferred from the shingled arrangement to an individual arrangement before transferring them in a continuous stream of shingled sheets, i.e. the configuration sheets are to assume in section C1. Instead of this, the sheets from merger section B already being in a shingled arrangement may be transferred to section C1 without the shingled sheets sliding one over another, although the speed of section C1 is less than the supply speed of section B. The present invention may also be implemented in other paper handling systems, in an equally advantageous way, as it is stated on page 21, second paragraph.

None of the prior art references cited in the Office Action concerns transferring pre-shingled sheets, i.e. sheets being in a shingled mode of arrangement, into a subsequent paper handling machine with remaining the shingled arrangement of the sheets.

For example, Scheffer is directed to a method apparatus for effecting shingling of conveyed printing products. As such, it is directed to a mechanism for producing shingled sheets. Scheffer describes an arrangement for decelerating and shingling printed products as they are conveyed from a variable rotary cutter by a high speed belt conveyer 50, to a slower speed belt conveyer 70 (abstract, column 7, line 28, column 8, line 30). Each printed product received by the high speed conveyer 50 from the rotary cutter 12 will have its surface speed

accelerated as the printed product is conveyed by the high speed conveyer belts 54 and 64 (column 8, line 6 to 9). Thus, the sheets are in a spaced single arrangement in high speed belt conveyer 50. Shingling is achieved by transferring these singled sheets from conveyer 50 to slower speed belt conveyer 70. The shingling is performed by the aid of a depressor or kicker wheel 100. The wheel 100 has depressor or kicker members 106 extending radially therefrom. These depressor or kicker members 106 will momentarily depress the trailing edge of a printed product whose leading edge has entered a head stop nip of the slower speed belt conveyer 70, thereby enabling the leading edge of the next successive printed product to pass over the depressed trailing end shingle therewith (column 9, line twelfth to seventeen). The depressor or kicker members 106 cooperate with a brake pad 140. The trailing edge of a printed product is sandwiched between the kicker member 106 and the brake pad 114 so that a frictional deceleration is applied to the corresponding printed product (column 9, lines 38 to 43). This additional deceleration momentarily imparted to the forwardly moving printed product as its forward edge enters the head stop nip substantially increases the rate of deceleration slowing the printed product down to the substantially slower surface speed of the slower speed conveyer belt 72 thereby preventing or inhibiting wrinkling or other damage to the printed products (column 9, lines 43 to 49).

Thus, Scheffer is not directed to transferring at least two sheets, which are arranged in a shingled mode of arrangement in a sheet transport direction, to a sheet handling machine. Accordingly, Scheffer is silent about supplying at least two sheets in a shingled mode of arrangement to a sheet handling machine. Moreover, Scheffer is silent about decelerating the second sheet of a pair of sheets. In particular, Scheffer does not disclose decelerating the second sheet of a pair of shingled sheets, thereby maintaining a shingled arrangement of these sheets.

Claims 7 through 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirakawa in view of Rodewald. Hirakawa (US 4,667,953) describes a sheet stacker for a corrugation machine having a cutter to width-wisely cut off the continuous manufactured corrugated cardboard web into corrugated cardboard sheets and then transfer, stack and eject the sheets. The sheet stacker of Hirakawa comprises beside cutter 2, the cutter outlet conveyer 4 and a shingling conveyer 5 which is disposed on the downstream side of the cutter outlet conveyer 4 and driven at a lower speed than the conveyer 4 to shingle or overlap a plurality of sheets 3 (column 3, lines 29 to 33). As can be seen from figure 3, the sheets 3 on

conveyer 4 are in an arrangement in which the sheets are spaced from each other in the conveyer direction. A plurality of brushes 39a to 39d are provided in order to regulate the shingling length of the sheets on the shingling conveyer 5 by braking the sheets transferred from cutter 2 (column 7, lines 18 to 21).

Thus, Hirakawa does not describe transferring two sheets, which are arranged in a shingled mode of arrangement in a sheet transport direction, to a sheet handling machine. Accordingly, Hirakawa does not describe supplying at least two sheets in the shingled mode of arrangement to a slower sheet handling machine. In particular, Hirakawa is silent about decelerating the second sheet of a pair of sheets, thereby maintaining a shingled arrangement of these sheets.


Rodewald (US 6,145,833) describes a rotary brush sheet deceleration device. The sheet deceleration system includes a vacuum conveyer 10 over which is suspended a rotary brush assembly 11 (column 2, lines 63 and 64). Sheets 18 are delivered to the vacuum conveyer 10 from an upstream conveyer 20, on which the sheets are serially arranged and, usually, in closely spaced relation (column 3, lines 8 to 11). Because the vacuum conveyer 10 is used to decelerate the stream of sheets, the line of sheets must be compressed on the vacuum conveyer and the result is an overlapping or shingling of the sheets (column 3, lines 11 to 14).

Thus, Rodewald fails to disclose the same features that Scheffer and Hirakawa do.

Applicants respectfully submit that the claims are in condition for allowance. The Examiner is invited to contact the below-listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

May 5, 2003

Respectfully submitted,

  
Christopher J. Reckamp  
Reg. No. 34,414

Vedder, Price, Kaufman & Kammholz  
222 N. LaSalle Street, Suite 2600  
Chicago, IL 60601-1104  
(312) 609-7500  
(312) 609-5005